PARADOX MARINE®

Installation Manual

Marine Magellan 6130/6160

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Introduction

Congratulations on your purchase of the Marine Magellan wireless security and monitoring system for your yacht (Diagram 1). The system is designed to provide reliable protection giving you true piece of mind when you are away from your vessel. This guide is designed to walk the installer through the complete setup and basic wireless programming of the Marine Magellan System. Please read the manual thoroughly before beginning. It is recommended that the installer have a basic understanding of electrical fundamentals and adheres to the ABYC standards of marine electronics.

Diagram 1

Section 1:

Installation Consideration

The placement of the individual components of the Marine Magellan system is very important. The installer must make sure that adequate security concerns and end user "ease of use" are taken into account. Reference the following guidelines before drilling any holes or running any wires.

Supply Voltage

The Marine Magellan wireless security and monitoring system must be installed in an adequate and well thought out location on your vessel. The system can be powered from the vessels 110 AC (VAC) supply and stepped down through our 16 VAC transformers. It can also be powered by the vessels domestic battery banks 12 volts DC (VDC). It is important to establish what voltage supply best suits your vessels needs. Typically an AC power source is used on all vessels that have a constant AC source from shore power or a generator. Powering the system through the vessels battery banks is typically done on smaller boats where AC power is not constant

Wire needs

-18 AWG / 2 conductor wire
Approximately 20 ft.
- Communication wire / 2 conductors
Telephone wire, Cat 5, or similar
approximately 12 ft.

AC installation

There must be a constant 110 VAC source in the vicinity of the units for power. The 16 VAC transformer must plug into the 110 VAC outlet. It is suggested that an isolated outlet be installed strictly for the plug in transformer(s). The 16 VAC output feeds to the Marine Magellan head unit and another transformer can feed to the Artion Battery backup board. The Artion Battery backup converts this 16 VAC to 12 VDC while charging the battery backup for the Artion. It is important that this AC source be constantly powered when the boat is not being used. It is suggested that you power the system off of its own breaker.

DC installation

There must be a constant 12 Volt DC (Direct Current) source in the vicinity of the units for power. This 12 VDC must feed the Marine Magellan and the Artion GSM module directly. On DC installations the Artion battery backup is not used.

Location Considerations

- ✓ The Marine Magellan and the Artion GSM Module must be mounted on the interior of vessel. They should be located as centrally as possible to all the proposed zones. This area must be clear from moisture and not susceptible to drastic temperature changes.

- ✓ There must be an adequate wire run behind the Marine Magellan, Artion, and the Artion Battery Backup Case (if applicable) so wiring is not exposed. Exposed wires compromise the systems security as intruders could cut essential communication lines. The installer must properly research the proposed locations of the devices so they have a clear unobstructed wire run. The Marine Magellan head unit and Artion unit should be powered up and communicating with no wire susceptible to tampering.

- ✓ The Artion should be as high as possible on your vessel, mounted above the water line for best cellular communication, and located within 12 ft of the Marine Magellan head unit. Use the included 3 ft. extension cable to extend the antenna and assist with the clarity of the call.

- ✓ It is important that the Artion be accessible but not visible. This is because in the event of an alarm, you do not want the communication tool exposed to any thieves. Possible places include inside cabinets or behind removable panels.

Section 2: Mounting

Once you have found an adequate location for the Marine Magellan, Artion, and the Artion Battery Backup Case (if Applicable) according to the criteria on the previous pages, it is time to mount them.

Marine Magellan

The Marine Magellan uses a plastic wall plate for wall mounting (Diagram 2). If mounting the unit on the wall you must first pop out the rectangular cutout labeled D on the plate to allow wiring access.

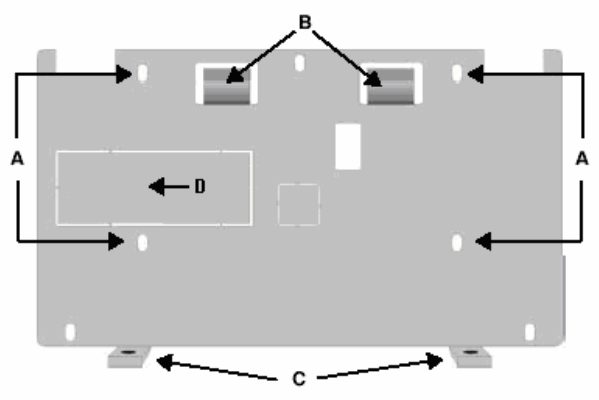


Diagram 2

The Marine Magellan can be mounted on a wall by first securing the wall plate to the wall and then mounting the console on the secured wall plate.

1.) Place the wall plate on the desired spot of the wall.

2.) Drill and insert screws into holes labeled A as shown Diagram 2

3.) With the Rectangular cutout D removed you must now drill a 5/8 inch hole into the wall as to allow for wiring access from the rear of the Marine Magellan.

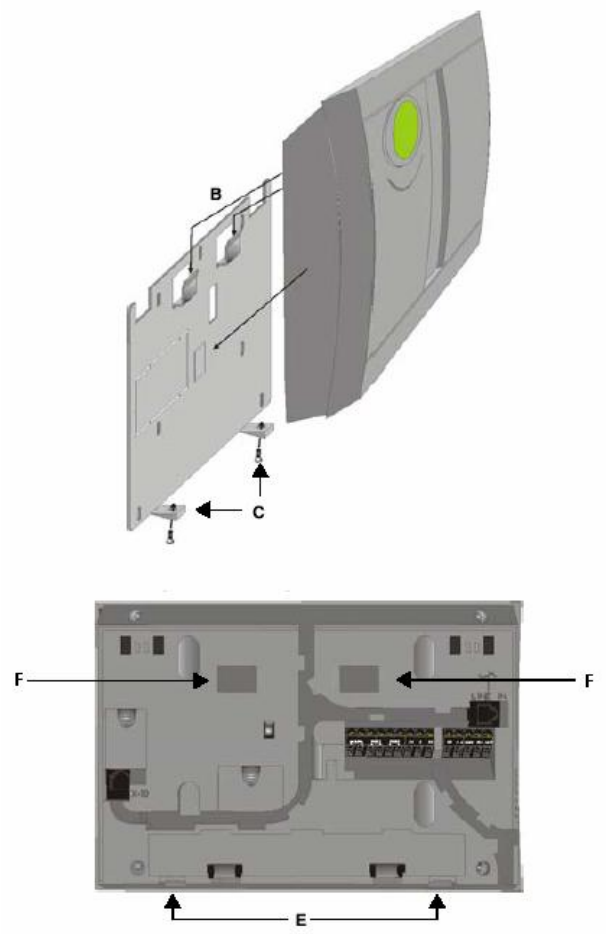


Diagram 3

3. Place the console back plate flush against the mounted wall
plate as shown in Diagram 3.
4. Slide the Marine Magellan's open slots labeled F (Diagram 3) onto the wall plate's tabs labeled B.
5. Gently apply downward pressure to insert the wall plates
tabs into Marine Magellan's open slots.
6. Once the Marine Magellan's power and communication wires are hooked up (Electrical Installation, Page 8), Insert two screws through the wall plate's screw holes labeled C and into holes labeled E (Diagram 3) in the Marine Magellan back plate. This will secure the console to the wall.

Artion GSM Module

It is important that the GSM communication module be mounted in such a location to allow accessibility without obvious visibility. Follow the steps below.

1.) Establish a proper location
2.) Mark the necessary holes to mount the Artion and allow wiring access.
3.) Drill the mounting holes
4.) Drill the 5/8 wiring access hole
5.) Screw in the top two screws on the left and right side of the area. Leave approximately 1/8 inch between the wall and the underside of the screw head.
6.) Feed your power, trigger and communication wires through the wiring hole.
7.) Place the GSM cellular module onto the top two screws matching up the respective holes and push downwards to lock the unit into place.
8.) Depress the two tabs at the base of the GSM cellular module and remove the top Cover.
9.) Screw the final two screws on the bottom of the GSM cellular module.
10.) Place cover back on Artion.

Artion Battery Backup

This case should be mounted in the vicinity of the Artion. There are four screw holes inside the metal case at all corners (Diagram 5).

Diagram 4

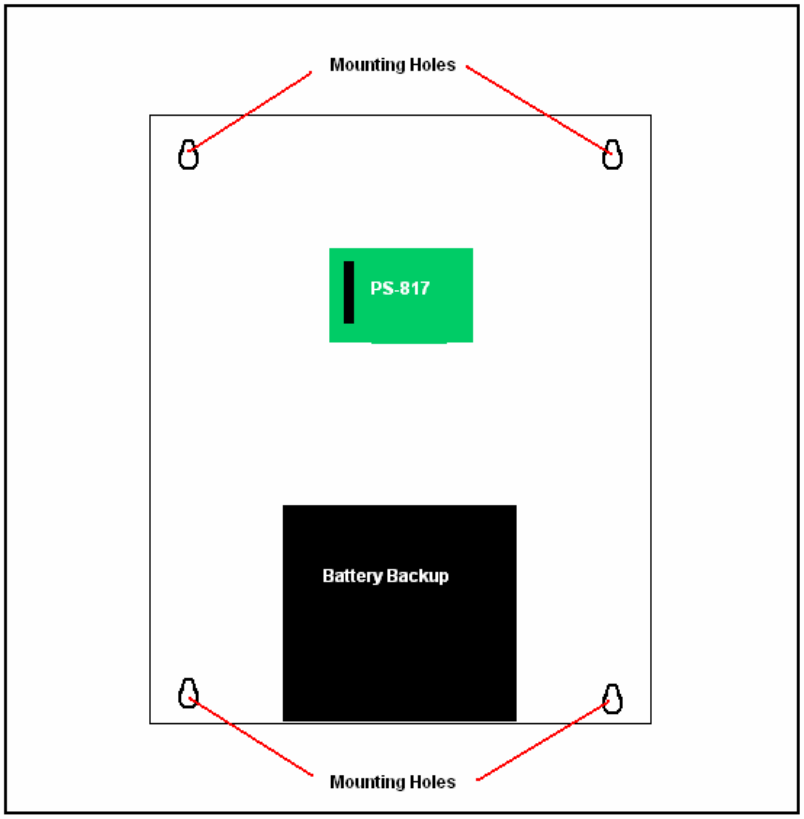


Diagram 5

Section 3: Electrical Installation

*** Power should be denied when making all electrical connections. Only apply power when all wire connections have been doubled checked for proper setup.**

This section closely describes how to power the essential components of the system for both AC and DC installations. It also shows how to hook up the Ring and Tip communication wires between the Marine Magellan Head unit and the Artion GSM module. A basic final wiring setup for the typical AC and DC installations can be referenced on Appendage 1 and Appendage 2 respectively.

AC power setup

Marine Magellan

The AC plug in transformer supplies voltage to both the Marine Magellan Console and the battery backup supply. The 110 VAC supply to the outlet should be on its own breaker. If the installer must tap into an existing outlet to get power, make sure that the existing breaker is properly current rated for the additional outlet. In either case, the AC breaker must be left on while away from boat.

Connect the two conductor wire to the "AC" inputs of the Marine Magellan. On the other end, connect the two wires to the output screw terminals on the AC transformer (Diagram 6). It is suggested that you crimp on spade connectors to the wire for a secure connection to the transformer. Since the voltage source is AC, the two connections are interchangeable between the two inputs.

Battery Backup

The external battery backup case has been designed to supply a constant 12 VDC to the Artion GSM module. It simply takes the 16 VAC input from the transformer, inverts it to 12 VDC, and charges the backup battery (Diagram 7). This device is only used during AC installations.

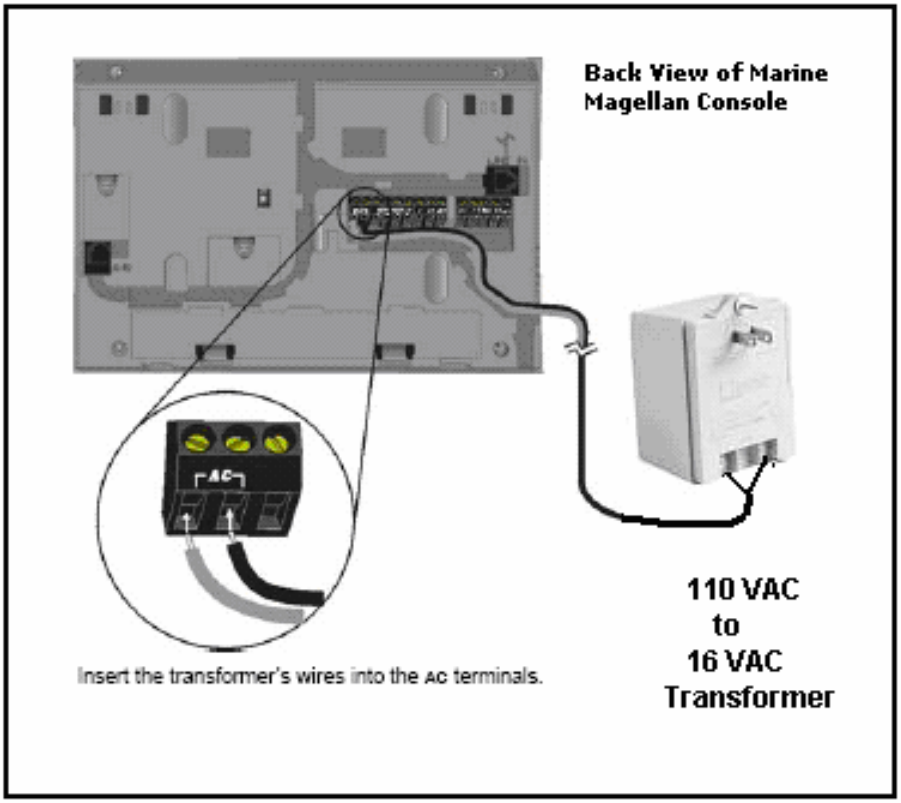


Diagram 6

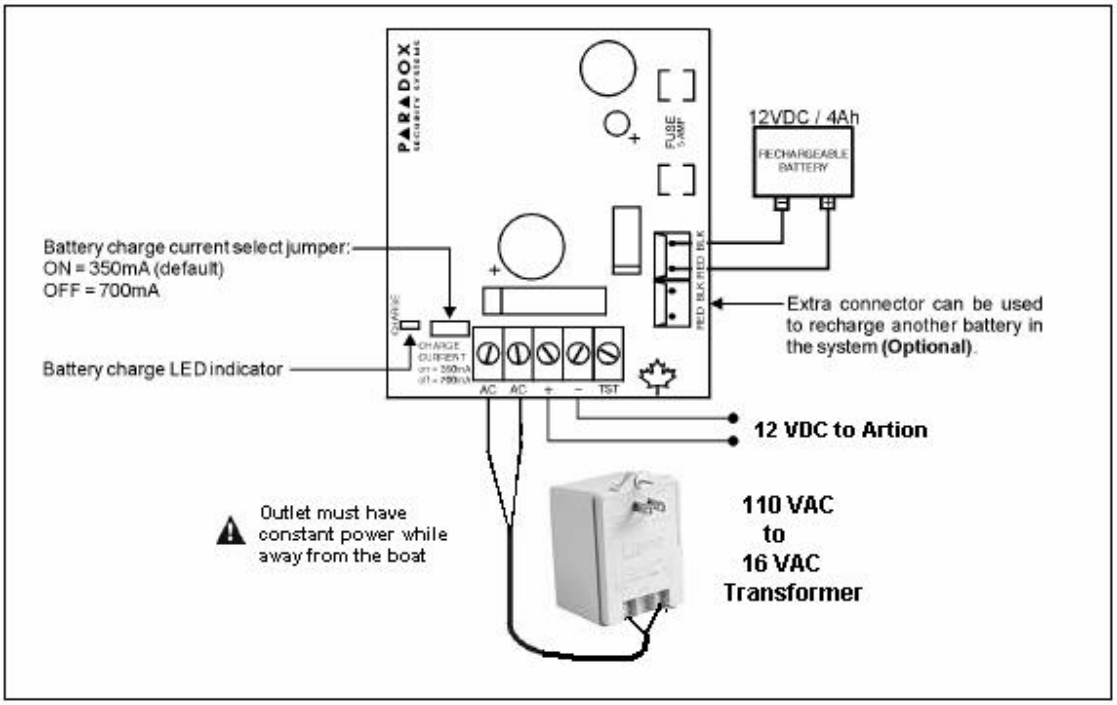


Diagram 7

DC power Setup

Marine Magellan

The Marine Magellan panel can easily be powered from the vessels 12VDC system. Simply get a constant voltage source to the unit from the vessels battery banks or domestic bus (Diagram 8). It is suggested that the installer fuse protect the Marine Magellan system by placing an in-line 1 amp fuse on the Positive input wire (not supplied).

Marine Magellan

Internal Battery Backup

The Marine Magellan uses its own backup battery pack to provide power during a power loss. This is not to be confused with the Artion Battery Backup. A 7.2Vdc 1.8Ah NiMH (Nickel Metal Hydride) rechargeable battery pack is included with the Marine Magellan console. Connect as shown in Diagram 9.

Artion GSM Module

The Artion GSM module simply needs a constant 12 VDC to operate (Diagram 10). In AC installations this power comes from the battery backup case. In DC installations, this power comes from the primary domestic source.

Communication Lines

Marine Magellan to Artion

With the power establish for all the devices, it is now time to hook up the communication wire between the Marine Magellan and the Artion GSM Module. Simply connect the “Line Out” of the Artion GSM module to the “Line In” of the Marine Magellan. The “Line Out” of the Artion has a tip “T” and ring “R”. The general rule when hooking up this line is red goes to ring and green goes to tip. There are two options for connecting to the “Line in” of the Marine Magellan. The first option is a line plug in connection through an RJ-11 (Diagram 11). The second option is a direct connection to the “Ring” and “Tip” (Diagram 12).

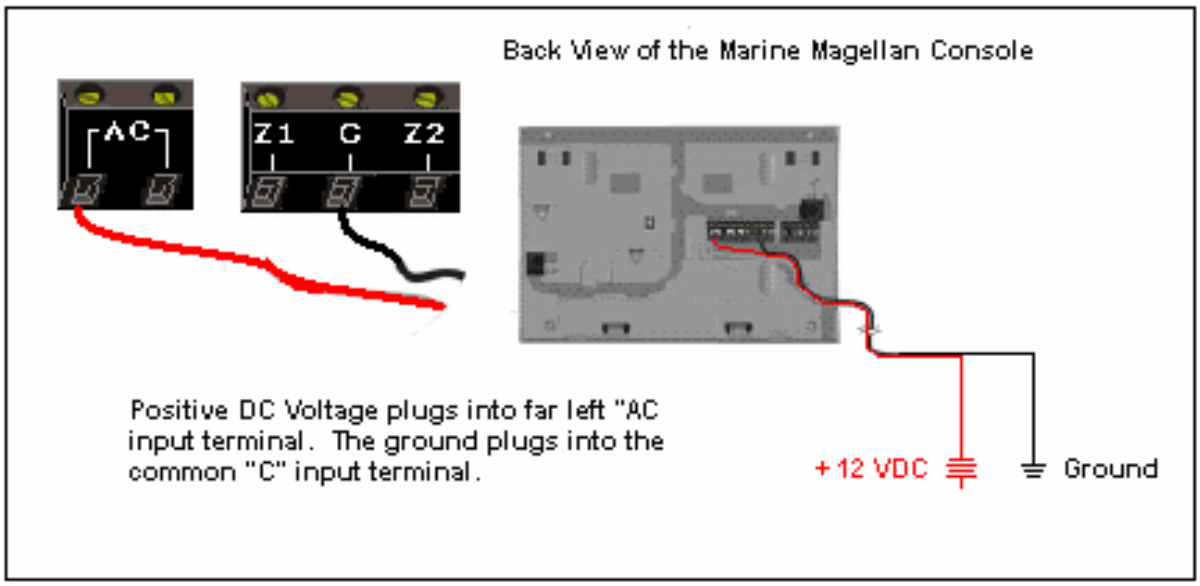


Diagram 8

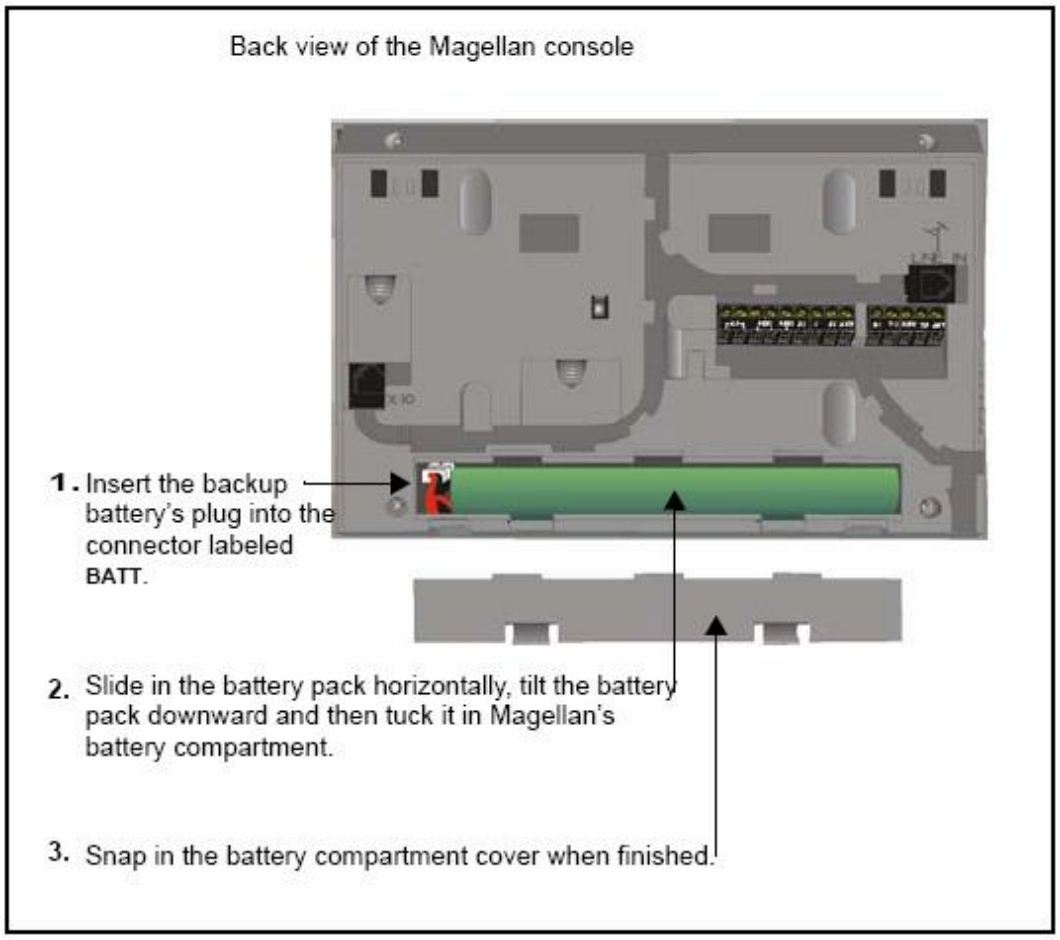


Diagram 9

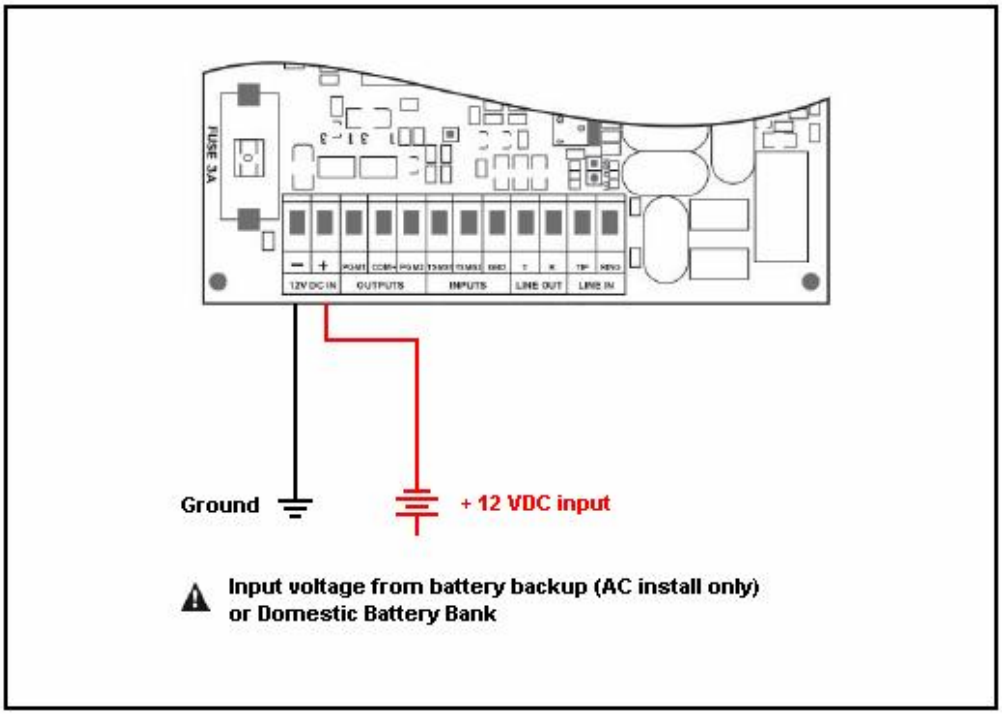


Diagram 10

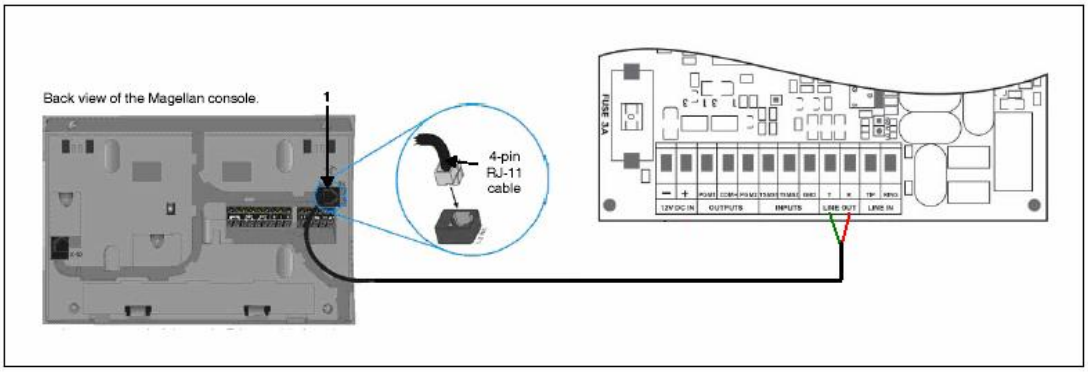


Diagram 11

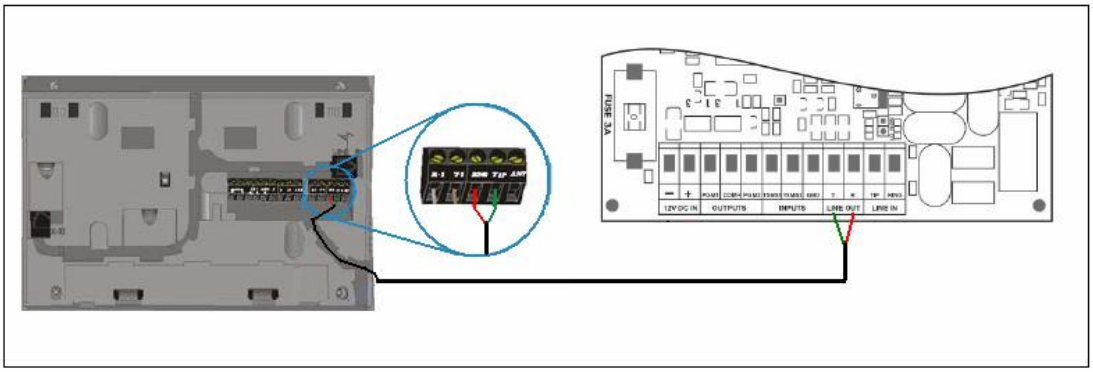


Diagram 12

Section 4: Programming

With the Marine Magellan and Artion GSM module now powered up and communicating with each other, it is time to program the different areas of the system. Upon initial startup of system, you are brought to the “System Setup” menu. As you go through this programming guide, you will see screen shots of the Marine Magellan. The complete layout of the programming menus can be referenced on Appendage 7. The installer may wish to install the zones (wireless sensors) and PGMS (relays) before programming (See 6 – Zone Profile and 7 –Output Profile) Note that the black shaded buttons represent the button that you need to press. When navigating through the different menus, press the center key to go to the “next” screen. To access the “System Setup” menu:

1.) Press “menu” from the main screen

2.) Press “ok” and ‘next’ to navigate menu

1 - Language

The Marine Magellan system is available in a variety of different languages. French and English are preloaded, to add additional languages you will need to upgrade the firmware. This is a very simple process that will require the use of the Paradox UIP-256 and a laptop computer. Contact Paradox Marine for language upgrades on your panel.

Select the desired language by pressing the appropriate number on the main keypad

2 - User Profile

You can program up to sixteen different users on your Marine Magellan panel. For security reasons, once you change the master code (User 1) from the default “1234” you will be prompted to enter the master code every time that you enter the system setup menu. A User is defined as a person with access to the system via a pass code and/or key fob remote. Common examples of the Master, user 2, and user 3 are the owner, captain, and first mate respectively. Every user can have only one remote each

for a total 16 maximum remotes on the system. In this section you have the ability to change user passwords, user voice labels, and add/delete remotes.

System Master Code

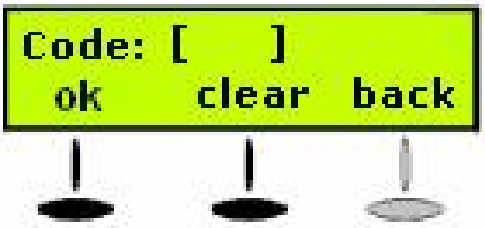
With the System Master code a user can use any arming method and can program any user's (from 1 to 16) access Code. The System Master is four digits (default), where each digit can be any number from 0 to 9. (*Default: 1234)*

User Codes

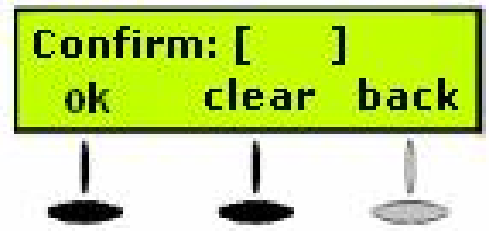
A person must be assigned to a user code in order to have access to the Marine Magellan. A user code defines the extent of a user's access to the system and consists of a code # (PIN) and user options. The Marine Magellan supports one System Master code and 15 User codes.

1. From the "User Profile" menu, press "ok".

2. Select which user you wish to add/modify by pressing "next". When the desired user appears, press "ok" and follow the menus to set:



3.) Enter your new user code



4.) Confirm the code to assure proper entry.

5.) Once you press "yes" you will be prompted to record a user label. The user

label is the person who will be using that password. (Examples: captain, first mate, owner, etc.)

6.) To program a remote to that user press “yes” otherwise press “no”. Only one remote can be programmed per user.

7.) When prompted to “Press any button on Remote”, depress any button for 1 second on your REM1 or REM2 remote control (Diagram 13).

REM 1 REM 2

Diagram 13

3 – Communicator

In this section you will assign the various call-out telephone numbers for the various recipients. Upon receiving the call, the user will hear the prerecorded voice label of the boat name and the condition that exists. Since the Marine Magellan system sends its alarm and event notifications directly to the end user, no central reporting setup is necessary.

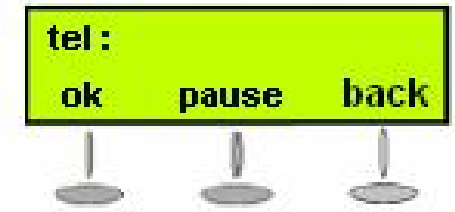
From the “Communicator” menu Press “ok”.

Voice Report

The voice report can send out alarm events to up to five different numbers. By default whenever an alarm occurs on the vessel, the first number will receive a call. If that recipient does not acknowledge the alarm or disarm the system, the call will disconnect and move on to the second number. This process continues in this fashion through to fifth recipient and then begins the cycle again two more times To add recipients, see below:

1.) From the “Voice Report” menu Press “ok”.

2.) From the “Add Tel. # 1” menu Press “ok”.



3.) Enter your first telephone recipient. The pause feature allows a 1 second space during callouts (for Charles phone or satellite phone headers). It is not necessary to dial a “1” before the area code.

4.) Continue in this fashion until all the recipients have been entered and it prompts you to “Record Alarm Mes?”

5.) Once you press “ok” you will be prompted to record an alarm message

6.) Say the name of the boat after the tone and press “stop” when done.

7.) You can listen to the recording by pressing “play”, re-record by pressing “no”, or accept it by pressing “yes”

8.) Now go back into the communicator screen by pressing “next” or pressing “3”.

9.) From the “Communicator” menu Press “ok”.

Utility Reporting

Utility reporting is an option that sends out a pre-recorded message for specific utility events on your panel to any two designated numbers. The Utility reporting programs the same method as “Voice Reporting” (See Above). The three specific events that can be set up are below. Only one of these events will work at one time.

Report Types

• *Disarm with user:* Use this report type to program the Magellan console to call you when specific users disarm the system. After entering the menu, select the desired user(s) that you wish reported. This feature is useful when you wish to know when specific
people disarm the system.
For example, you can program the Marine Magellan to call you whenever your captain disarms your system thus informing you that he is aboard.

System troubles: Use this report type to have the Marine Magellan console call you when specific troubles occur. After entering the menu, select the desired trouble(s) you wish to be notified about. This feature can be used to inform you of a power failure on your vessel and internal battery failure of the Marine Magellan panel.

• *Zone activation:* When a specified zone is breached or opened, the Marine Magellan console will call one or both of the programmed telephone numbers. After entering this menu, select the desired zones you wish affected. Use this feature to be informed when a specific zone is breached. *For example, if you have a safe on your vessel, you can have the Marine Magellan call you whenever the safe is opened or breached.*

Select “ok” and chose the specific

type of utility report you want the recipient to receive.

4 – Delays and Tones

This menu allows you to set entry / exit times as well as associated sounds for the Marine Magellan. Below are the definitions of the different functions within this menu.

Select “ok” to go into the Delays and Tones menu

Entry Delay 1 – The entry delay 1 is the amount of time that the user has to disarm the Marine Magellan system from an armed state. It is engaged whenever a “delay 1” zone is opened (see 6 - zone profile). By default it is 45 seconds. After the time delay screen you can change the entry tone that you will hear.

Entry Delay 2 – This entry delay is identical to the first except it is engaged whenever a delay 2 zone opens (see 6 - zone profile).

Exit Delay – The Exit Delay determines the amount of time a user has to leave the protected area before the Marine Magellan arms the system. The Exit Delay applies to all zones (except 24 Hr zones) in the system.

Bell Cutoff Delay – This is the amount of time that the Marine Magellan will sound its internal sirens during an alarm event. The system will stay in alarm after this time is up. However the Bell cutoff delay will reinitialize if a zone is opened again. The default bell cut-off delay is 4 minutes.

Bell Squawk – This feature enables the siren to squawk once
upon arming with a remote control and twice upon disarming with a remote control.

5 – System Test

This feature allows you to test all the different functions of the system to check for proper operation. Simply select the entity that you wish to check (zones, outputs,

remotes, etc) and trigger them. The Marine Magellan will announce the event and confirm proper operation.

Press “ok” to begin system test

6 - Zone Profile

Description

Zones are defined as the assorted wireless sensors that transmit open/close conditions to the Marine Magellan. This section describes how to program the various zones. These zones come in the form of door contacts, motion detectors, smoke detectors, high water alarms, and low voltage detectors to name the most common. The Marine Magellan system can hold up to 32 of these zones. Whenever any of these zones batteries start getting low, the Marine Magellan will be alerted and display an information key on the screen (See Appendage 4). Essentially, the installer must get into the "add zone x" (x = 1-32). Once "ok" is pressed for the zone that you are adding, it will prompt you to "Press tamper or Press Learn Btn."

Learn Mode allows Marine Magellan to look for an open wireless signal from a zone and place it into a designated position in the console. Before you "learn" the assorted zones into your Marine Magellan Panel, it is important to understand the fundamentals of the most commonly used zone definitions and programming techniques.

Zone Definitions

A zone definition is the type of reaction the installer wants when that zone gets breached. There are assortments of definitions that can associate with a zone. The most common definitions are outlined below:

Entry Delay 1

Typical position: Primary entry

When the system is armed and a zone defined with Entry Delay 1 opens, the console will generate an alarm after the programmed Entry Delay 1 timer elapses. This is to provide users with enough time to enter the protected area and disarm the system. Entry Delay zones are commonly used at the entry/exit points of the boat. Using different Entry Delays (see Entry Delay 2 below) is useful when, for example, one entry point requires a longer delay than another entry point.

Entry Delay 2

Typical Position: Secondary Entry Door Contacts

This zone is identical to the Entry Delay 1 zones, except it uses a separate Entry Delay Timer.

Follow Zones

Typical Position: Interior Motion Detectors

When an armed Follow zone opens, the console will immediately generate an alarm unless an Entry Delay zone opens first as described in the situations below:

• If an armed Follow zone opens after an Entry Delay zone
opens, the console waits until the Entry Delay Timer has
elapsed before generating an alarm.

• If an armed Follow zone opens after more than one Entry

Delay zone opens, the console will wait until the Entry Delay
Timer of the zone that opened first has elapsed. This feature is commonly used when a motion detector is protecting the area occupied by the entry point keypad. This will prevent the motion detector from causing an alarm when a user
enters through the entry point to disarm the system.

Follow/Stay Zones
Typical Position: Interior Motion Detectors
Follow/Stay zones function as follows:
• All zones defined as Follow/Stay zones become Follow
zones when the Marine Magellan system is Regular armed.
• All zones defined as Follow/Stay zones become Stay zones
when the Marine Magellan system is Stay or Instant armed.

Instant Zones
Typical Position: Door contacts on Hatches
When an armed Instant zone opens, the console immediately
generates an alarm. Instant zones are commonly used for
windows, patio doors, skylights and other perimeter type zones.

Instant/Stay Zones
Typical Position: Door contacts on Hatches
The Instant/Stay zones function as follows:
• All zones defined as Instant/Stay zones become Instant
zones when the Marine Magellan system is Regular armed.
• All zones defined as Instant/Stay zones become Stay zones
when the Marine Magellan system is Stay or Instant armed.

Delayed Fire Zones
Typical Position: Smoke Detectors
When a Delayed 24Hr. Fire zone opens, whether it is armed or
disarmed, the console will react. Delayed 24Hr. Fire zones are commonly used in galleys where a smoke detector often generates false alarms (i.e., burning bread, etc.).

24Hr. Buzzer Zones
Typical Position: High Water and Low Battery Voltage zones
This zone definition is used in cases where you want an alarm notification whether the system is armed or disarmed.
• Whenever a 24Hr. Buzzer zone opens, whether the console
is armed or disarmed, the console sets off the keypad's
buzzer to indicate that the zone was breached.
• The console will report the alarm, but will not enable the bell/
siren output.
• Enter any valid Access code on the keypad to stop the buzzer.

Zone Hardware Descriptions

This section loosely describes the basic operation of the assorted zones for the system. For more specific data on the individual sensors please reference the guides included in the box of each particular sensor.

DCTXP2

"Magnet Reed Switch"

Typical Position: Entry Doors and Hatches

Typical Zone Definition:

Delay or Instant

Power: 2 x "AAA"

Description: This device detects open/close states thru an on board magnet switch. The fixed door contact must be located in a position where the moving magnet comes within ½ inch of the magnet reed switch when the door opens and closes. The magnet reed switch is marked by the triangle on the upper right side of the door contact casing (Diagram 14 and 15).

DCTXP2

"Universal Transmitter Input"

Typical Position: Any location where secondary sensing applications are needed.

Typical Zone Definition:

Delay or Instant

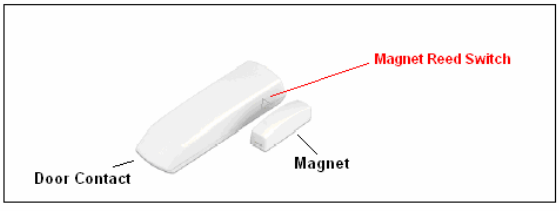


Diagram 14

Power: 2 x "AAA"

Description: This device can be installed in another fashion utilizing is its universal inputs. These two input terminals accept a variety of different sensing applications. The purpose of this option is for secondary sensor inputs. The most common examples of this application are the High Water, Low Voltage Sensors, and recessed door magnet sensors. The DCTXP2 Universal input simply needs to see a open/close state change. Open the cover of the DCTXP2 and reference Diagram 15.

Powering the Unit

Verify proper polarity and insert two alkaline "AAA" batteries. After inserting batteries, a power up sequence will begin (10-20 seconds) during which the door contact will not
detect an open zone or tamper.

Low Battery

The door contact performs a battery test every 12 hours. If the voltage is below 2.3V after four consecutive battery tests (48 hrs.), the red LED will flash at 5 second intervals and the MG-DCTXP2 will transmit a low battery signal

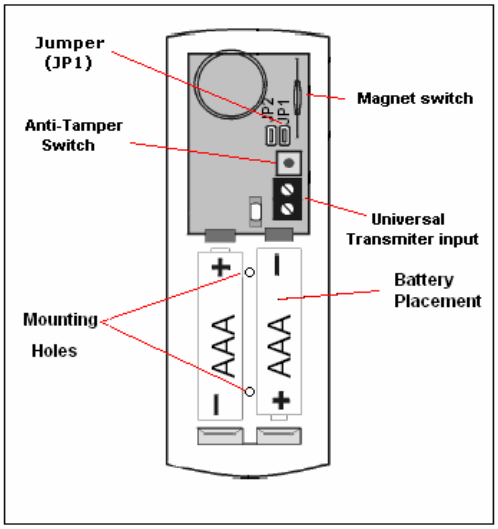


Diagram 15

Jumpers	
JP1 ON	Normally Open Reed Switch/Universal Input: open = “zone open” signal closed = “zone closed” signal
JP1 OFF	Normally Closed Reed Switch/Universal Input: open = “zone closed” signal closed = “zone open” signal
JP2	Not Used

Table 1

Mounting

It is suggested that you first apply the door contact and magnet with double sided tape and test it before permanently mounting the unit. Once you have mounted it and put your batteries in, programmed and tested for operation, you then can then pre-drill and screw in you door contacts.

Jumpers

You will notice a jumper at “JP1”. With the jumper “on” the contact will reed open to the Marine Magellan panel when the magnet is not present. With the jumper “off” the contact will reed closed to the Marine Magellan panel when the magnet is not present (Table 1). This comes in handy with specific sensing applications that may have opposite normal states.

Learn Mode

Learn Mode allows you to transmit the serial numbers of each input to your Marine Magellan console wirelessly. To enter Learn Mode, open the cover and wait until the LED stops flashing. There are two methods to program the DCTXP2 depending on whether the “Magnet Reed Switch” or the “Universal Transmitter Input” is being utilized (Table 2). Make sure that the Marine Magellan is in the proper programming screen and says “Press Tamper or Press Learn Btn” (6 – Zone Profile, Programming). Essentially, if you are using the “Magnet Reed switch”, momentarily
press the red tamper switch once in one second. If you are programming
the “Universal Transmitter Input”, simply momentarily press the red tamper button twice in one second.

	Magnet Reed Switch	Universal Transmitter Input
Anti-Tamper Switch	Press and release the anti-tamper switch once.	Press and release the anti-tamper switch twice within one second.
Serial Number	SN = Reed switch (e.g. 240 000)	SN+1 = Universal transmitter input (e.g. 240001)
Visual Confirmation	The LED will flash once four times.	The LED will flash twice rapidly four times.

Table 2

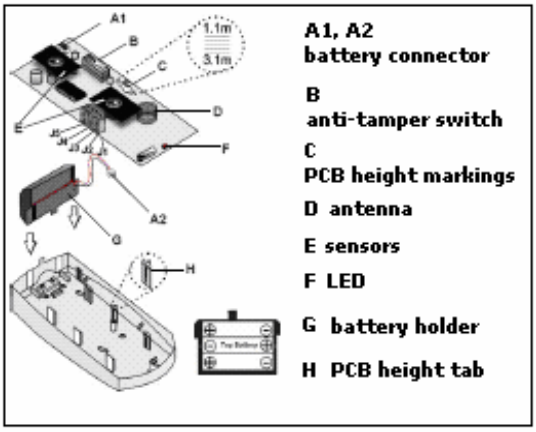


Diagram 16

PMD-75 Motion Detector

Typical Position: Salon, Stateroom, and Hallway

Typical Zone Definition: Follow or Follow / Stay

Power: 3 x “AAA”

Description: It is recommended that the motion detector be mounted high up on the wall or corner of your vessels interior. It should focus on susceptible areas that could be prone to break in. It is important not to focus on areas that could cause false alarms (i.e. focusing in areas that may have movement thru glass).

Powering the Unit

1. Insert 3 “AAA” batteries into the battery holder while verifying polarity (Diagram 16).

2. Insert the battery holder into the back cover and affix the battery connector to the PCB (see “A1” and “A2” in Figure

Mounting

It is recommended that the motion detector be mounted high up on the wall or corner of your vessels interior. It should focus on susceptible areas that could be prone to break in. It is important not to focus on areas that could cause false alarms (i.e. focusing in areas that may have movement thru glass). Temporarily mount the detector with double sided tape and test that the location is adequate with no possible false alarms.

Walk Test

Open the cover in order to trigger the anti-tamper switch, and then snap the cover back

into position. This will activate the motion detector's walk-test mode for 3 minutes.

Learn Mode

Power up the unit and allow the LED to cycle out with the cover open. Make sure that the Marine Magellan is in the proper programming screen and says "Press Tamper or Press Learn Btn" (6 – Zone Profile, Programming). Press the tamper switch on the board once briefly (Diagram 17 reference "B").

SD-738 Smoke Detector

Typical Position: Galleys, salons, and electrical closets
Typical Zone Definition: Delay Fire
Power: 9V Battery

Description: This device has a high-sensitivity photoelectric smoke sensor with its own built-in siren (Diagram 17).

Diagram 17

Powering the Unit

Open up the back cover of the unit to access the 9 volt battery. There is a plastic wrap around the battery that needs to be removed. Snap in the battery, place it in the compartment, close the cover, and secure it with the included screw.

Replacing the Batteries

When the Battery starts to fade out, the device will generate an alarm every 15 minutes to alert you of it.

Mounting

Place the mounting plate in the designated location. Pre-drill and secure the plate. Place the detector onto the plate, match up the key, and turn clockwise until it stops.

Learn Mode

With the unit powered up, make sure that the Marine Magellan is in the proper programming screen and says "Press Tamper or Press Learn Btn" (6 – Zone Profile), Programming). Hold down the test button on the top of the smoke detector for approximately three seconds.

Battery Low Voltage Detector

Typical Position: Domestic battery Banks
Typical Zone Definition: 24Hour/Buzzer
Power: 2 x "AAA"

Description: The Battery Low Voltage detector is designed to monitor vessels battery bank(s) for low voltage. The voltage detector opens the zone when the battery voltage drops below 11.6 for a 12 VDC bank or 23.2 for a 24 VDC bank for a period of

more than 2 minutes. The Low voltage sensor is mounted in a sealed, waterproof, plastic enclosure. Typically it is hooked up to the primary domestic battery bank for the boat. This is because this is the battery(s) that powers the bilge pumps and therefore is the most important.

Powering the Unit

Unscrew the four screws holding the cover on and open it up. Inside you will see the low voltage sensor attached to a DCTXP2. Place the batteries in the DCTXP2. Now you must program the DCTXP2 to a zone location of the Marine Magellan (see DCTXP2, “Universal Transmitter Input”)

Electrical Connection

With the wireless zone powered up and programmed, you now must connect the respective wires to the battery bank that you wish to monitor (Diagram 18 and 19).

It is important that the battery bank that you are monitoring is the same one that powers your bilge pumps. This is the most vital bank to monitor when away from your boat. Select the voltage you are monitoring on the Low voltage sensor by flipping the switch between 12 or 24 (Diagram 18 and 19).

Once the proper battery voltage is selected you are now ready to hook up the wires. You can hook up directly to the Ground and negative of the batteries or to a primary bus feed off of it. See Diagram 18 and 19 for 12 VDC and 24 VDC diagrams respectively. Once this is accomplished, a green light will light up on the low voltage detector in the case. Secure the case in an unobtrusive location by screwing through the base of the case. Place the cover back on.

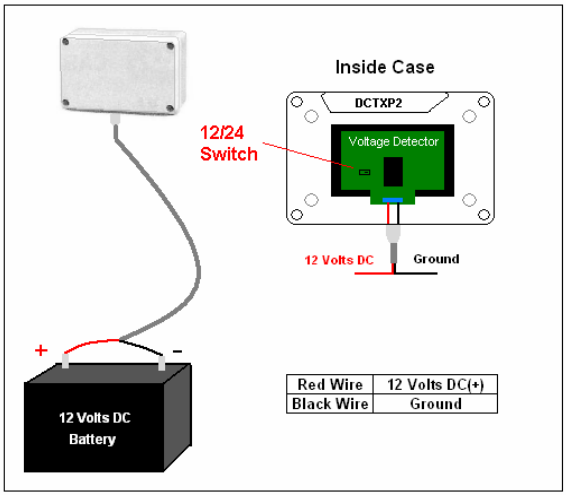


Diagram 18

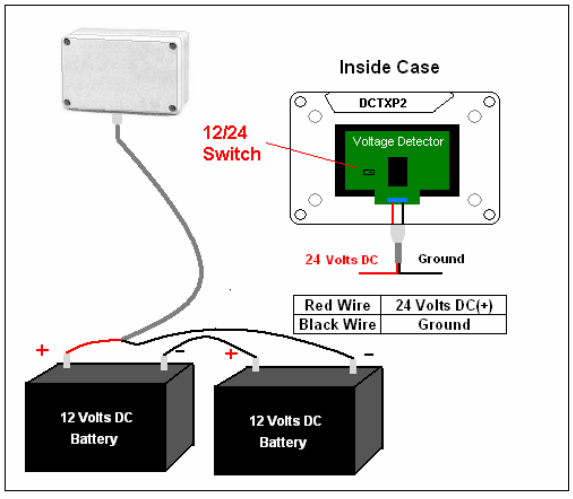


Diagram 19

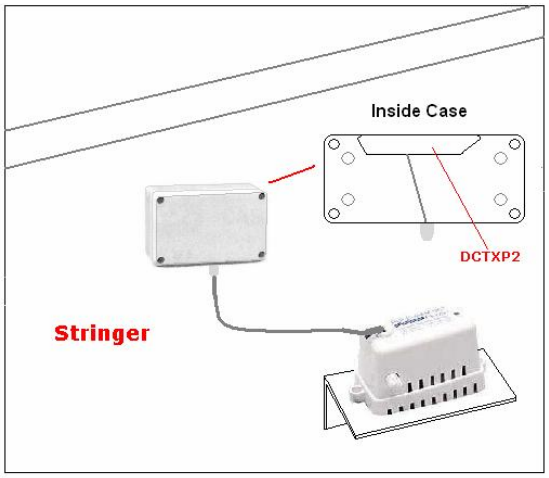


Diagram 20

High Water Alarm
Typical Position: Bilge Areas
Typical Zone Definition: 24 Hour Buzzer
Power: 2 x “AAA”

Description: The High Water detector is designed to monitor the water level in your bilge. The High water float switch is mounted on the stringers in various areas of your bilge. The switch is wired to the DCTXP2 wireless sensor located in a sealed, waterproof, plastic enclosure (Diagram 20). Unscrew the four screws holding the cover and open it up. Inside you will see a DCTXP2. Power the DCTXP2 and then program the DCTXP2 to a zone location of the Marine Magellan (see DCTXP2, “Universal Transmitter Input”)

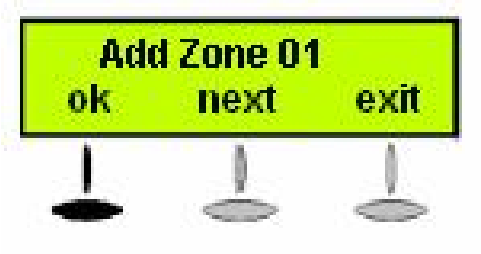
Mounting
Now you must mount the plastic high water alarm and 90 degree plastic shelf in the bilge. Typically the switch is mounted 6 to 8 inches from the bilge bottom. The best reference to mount it is about a half inch below the level of the boat manufacturers existing high water switch. The sealed plastic box housing the DCTXP2 should be mounted above the float switch.

6 - Zone Profile Programming

You should now have a general understanding of using the wireless sensors and the definitions associated with them. It is now time to program these sensors individually to each zone location of the Marine Magellan console. For organizational sake, it is suggested that you keep like sensors grouped together. For example, if you have five different door contact zones and two High water zones, allocate the doors to zones 1 -5 and the High Waters to zone 6 and 7. This action

just makes more sense that having the zones randomly placed.

1.) Select Zone Profile by pressing “ok”



2.) Choose which Zone # you wish to add by pressing “next” and “ok”.

3.) When the screen says “Press Tamper or Press Learn Btn”. Press the “learn” button on the individual sensor that you are programming. For instructions on the where the learn button is on the transmitter see “Zone Hardware Descriptions” under “Learn Mode” for that particular sensor.

4.) This is where you say the name of the particular zone that you just learned into the panel. (ex. Saloon door, Forward High Water, etc.)

5.) Vocalize the zone label and press “stop”

6.) You can listen to the recording by pressing “play”, re-record by pressing “no”, or accept it by pressing “yes”

7.) Declare the type of zone that you want by pressing next and then ok. For the most common zone type definitions, see (Zone Definitions).

8.) To add another zone to the next available location and repeat the process press “yes”, otherwise press “no”.

7 – Output Profile

A PGM is a programmable relay that toggles to its opposite state when a specific event has occurred in the system. For example, a PGM can be used to activate external sirens or strobe lights, turn on ice makers and much more. The Magellan console includes two onboard PGMs. The 2WPGMS communicate wirelessly to the Marine Magellan. The system can support up to a total of four PGMs (e.g., two onboard PGMs + two wireless PGMs OR four wireless PGMs).

All PGMs must be programmed to follow a certain event. This could be as simple as pulsing a light on and off in alarm to following a zone opening and closing. Before hooking up and programming the PGM, it is important to understand the most common activation event definitions.

PGM Activation Events

Remote Access

Description: This event allows the PGM to activate from a remote control button on the key fob remote (REM1 or REM2). The user can have the PGM toggle on and off from this button or even have timing cycle of 1, 5, 15, or 30 Seconds/minutes. This event is also a secondary toggle on/off option with every single PGM event. This comes in handy if you want to be able to have the cockpit lights “Pulse on Alarm” and still be able to turn the lights on through the remote as a convenience when boarding the boat. Before programming the PGM to activate on a button, at least one key fob remote must be programmed to the system (see User Profile). Common examples of remote triggered devices are cockpit lights and underwater lights.

Follow bell

Description: This event allows the PGM to activate following the Bell cut-off delay. The bell cut-off delay is the amount of time that the internal 90 decibel siren of the Marine Magellan will sound before shutting off. The event scares away would be thieves while shutting off after a period of time as to not annoy your fellow dock mates. The unit stays in alarm and will re-initialize if a zone is breached again. By default, the bell cut-off delay is four minutes. To change this time (See 4 – Delays and tones). Common examples of bell triggered devices are external audible sirens and spreader lights.

Alarm activation

Description: This event allows the PGM to activate upon alarm in a variety of ways.

Follow Alarm
Description: The PGM will activate for the entire duration while in alarm. The only way to deactivate the PGM is by disarming the system via key pad, key fob, or phone. Common examples are exterior lights and strobes.

Pulse on Alarm
Description: The PGM will activate on (1 sec.) and off (1 sec.) pulsing for the entire duration while in alarm. The only way to deactivate the pulsing PGM is by disarming the system via key pad, key fob, or phone. Common examples are exterior lights and strobes

Timed Duration
Description: The PGM will activate for an established period of time and then deactivate once the time is elapsed. The PGM can be programmed to come on for 1, 5, 15, or 30 seconds/minutes. A common example of triggered device is the vessels existing horns. As an initialization whenever there is an alarm, the horn will blow for five seconds.

Zone activation
Description: The PGM will activate whenever a specific zone(s) opens. The PGM can stay on the entire time the zone is opened or for a set time frame of 1, 5, 15, or 30 seconds/minutes. The installer can specify all zones or particular zones to activate the PGM. Common examples of this are interior lights that may come on when a certain door zone opens up.

Follow arm
Description: The PGM will activate whenever the system is armed. Common examples of triggered devices may be visible red LEDs on the exterior of the vessel to alert users of armed status.

Follow stay arm
Description: The PGM will activate whenever the system is stay armed. Common examples of triggered devices may be interior lamps that come on inside the salon.

Custom setup
Description: The PGM can be programmed to activate/deactivate from a variety of specific events from user 5 disarming to a low battery on zone 7. This feature is for experienced installers only. Reference page 18 on the programming guide included with each unit.

PGM Electrical Installation

Before beginning the PGM electrical installation to control a device it is important to understand the power specifications and current limitations for both the Hardwired PGMs and the Wireless 2WPGMs. The basic specifications for the devices are in Table 3. When utilizing the two hardwired PGMs, the basic rule is to always trigger a higher current relay to switch your device. Reference Appendages 3 – 6 for common relaying schematics for both the Hardwired and Wireless PGMs.

	Max Relay Current	Max Relay Voltage	Supply Voltage
PGM 1 Hardwired	100 mA	28 Vdc	n/a
PGM 2 Hardwired	50 mA	28Vdc	n/a
2WPGM (Wireless PGM 1,2,3,or 4)	5 Amps	60Vdc/120Vac	12-28Vdc / 16 Vac

Table 3

7 – Output Profile

Programming

1.) Go to the “7 - Output Profile” menu under “System Setup” and press “ok”.

2.) Select “Add output 1”

3.) If utilizing a “2WPGM” press “yes” and continue to the next step. If utilizing a hardwired “PGM 1” or “PGM 2” (Output 1 and Output 2 respectively) select “no” and jump to step 5.

4.) With the “2WPGM” powered up open the plastic cover of the device or manually press the “tamper switch” briefly. Shortly after the Marine Magellan Panel will acknowledge the 2WPGM signal. Now proceed to the next step.

5.) Now you must give the PGM a voice label to identify the device that it is controlling. Select “yes”.
(ex. cockpit lights, Ice chipper, etc.)

6.) Vocalize the PGM label and press “stop”.

7.) Continue pressing “Next” until you get to the proper definition according to (PGM Activation Event Definitions).

8.) Now you will be prompted to program the PGM to trigger on/off with the remote as a secondary activation event. Select “yes” if you want this option and follow the on-screen directions. If “no”, continue on to the next step.

9.) If you are done programming your PGMs press “no” otherwise to repeat the PGM process press “yes”.

8 – Keypad Profile

Keypad description

The MG32WK is a two-way 32-Zone Wireless LED Keypad for use with the Marine Magellan MG-6160 and MG-6130 consoles. You can program up to four different wireless keypads into the Marine Magellan panel. The MG32WK provides the status of the console’s 32 zones in real-time as well as complete system status, such as alarm in memory, troubles, keypad low battery, console message waiting and FM Radio activation (Diagram 21)

Powering the Keypad

Installing the Backup Battery

With the back plate removed, install the 3.7Vdc Li-ion rechargeable backup battery included in the box (Diagram 22). Please note that this can be replaced by a standard cell phone type battery. The backup battery is for backup purposes only. It is not the primary power source.

The Keypad is powered by 6Vdc through an 110Vac plug in transformer (Diagram 23). When connecting the DC source, use the included 6Vdc adapter only. Do not use a 16Vac transformer. The transformer must be plugged into a hidden outlet somewhere in the vicinity of the proposed location. It is important that this outlet receive constant power. Connect the included 6Vdc output of the transformer to the respective positive and negative terminals located below the backup battery.

Battery Charging Indicator

The LED of the MG32WK will light up to indicate that the backup battery is charging only after DC restoration.

KEYPAD OVERVIEW

Indicator Lights

Arm LED (red):
On = Full armed
Flash = System in alarm

Stay LED (orange):
On = Stay armed
Flash = System in alarm

Ready LED (green):
On = All zones are closed
Flash = Exit delay

Rx/Tx LED (orange):
On = Power of console
Flash = Transmission/reception in progress

MG32WK

Indicator Lights

LED (red):
On = Keypad battery charging
Flash = Keypad battery low

LED (orange):
Flash = Message waiting

FM LED (green):
On = FM tuner on

Zone Display:

The numbers [1] to [32] correspond to zones 1 to 32 respectively. Open or entry delay zones are illuminated, and flash in alarm.

Keys

key: Press to refresh the display.

key: Press and hold (3 sec.) to adjust the backlight.

[PG1] key: Press and hold (3 sec.) to control_____

[PG2] key: Press and hold (3 sec.) to control_____

[FM] key: Press to turn the FM tuner on/off.

Diagram 21

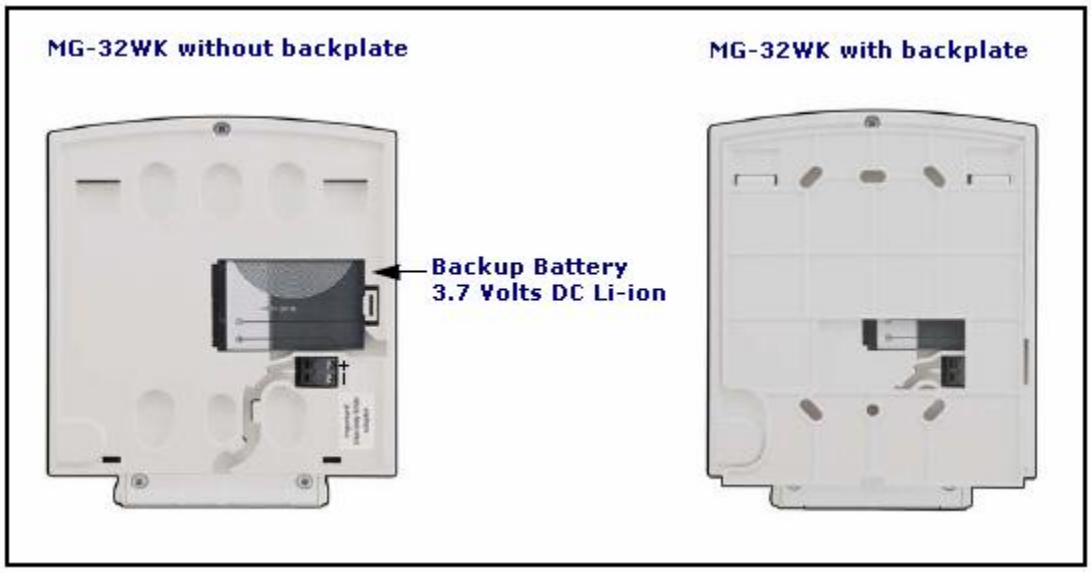


Diagram 22

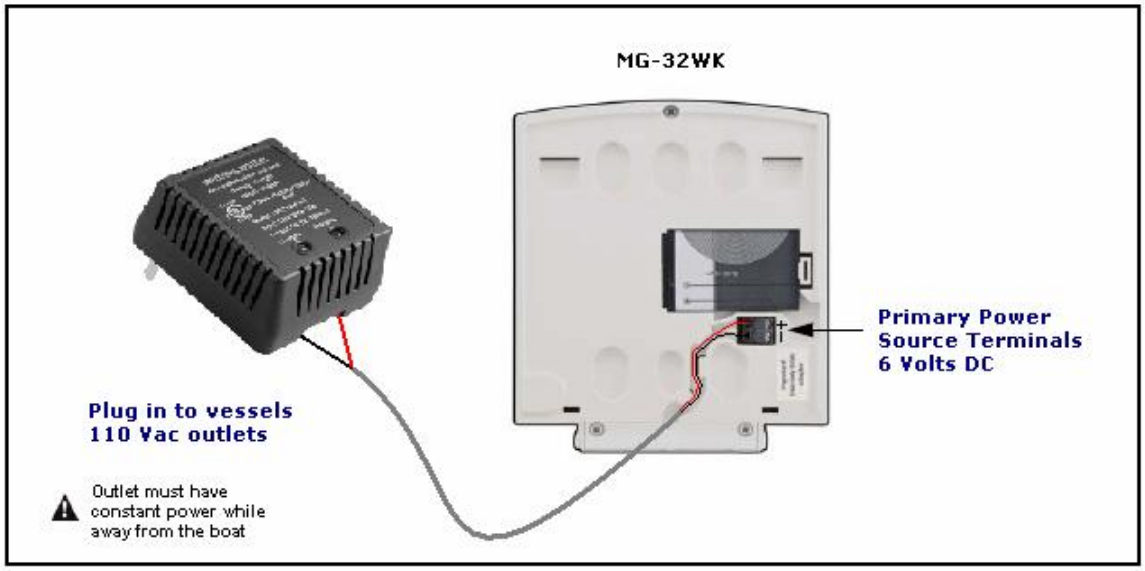


Diagram 23

Keypad Profile

Programming

1.) To add a keypad press “ok”

2.) You can have up to four wireless keypads on the Marine Magellan System. Select the keypad number you want to program and press “ok”.

3.) Hold down “PGM 1” and “BYP” on the MG-32WK. This will learn the keypad to the system.

9 – Repeater Profile

A repeater is a device that will take in the Marine Magellan’s wireless signals and amplify them to the extremities of your vessel. Generally they are not needed on vessels under 125 ft in length. The Wireless Repeater module will improve the range of your system by retransmitting information from zones, PGMs, wireless keypads and the control panel. Note that all remote control signals are always repeated. You can have two

MG-RPT1 per system. The Wireless Repeater also provides one PGM and one zone input with two-way wireless communication with the panel. The Repeater module is powered by the standard transformer (110 VAC to 16 VAC, Diagram 24)

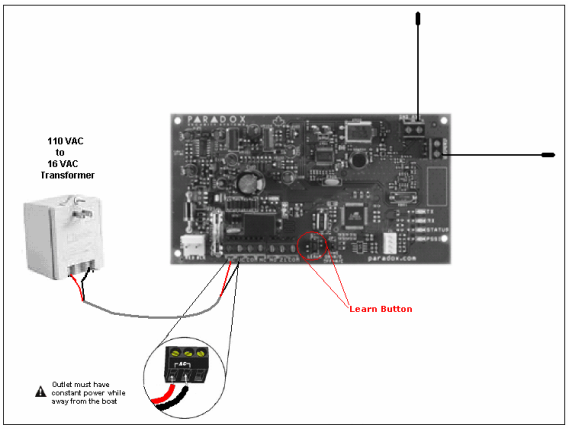


Diagram 24

Repeater Profile

Programming

1.) Select “ok” from the Repeater Profile

2.) Select “ok” for Repeater 1 and then press learn switch on the powered repeater (Diagram 24)

10 – Signal Strength

This section allows you to view the signal strength of all the wireless applications tied into the Marine Magellan Panel.

1.) Select “ok” to view signal strength

2.) Press “next” to scroll through the various zones, Outputs, keypads, and repeaters programmed to your system.

11 – Passwords

The Marine Magellan some background passwords called the Installer Code, Maintenance Code, Panel ID, and PC Password. These Passwords are not to be confused with the Master and user codes 2-16. They will not disarm the system. They

are put in place to give varying levels of control between the owner and installer. For Example, an installer can add/delete zones from a system but not change the User 3 access code. Conversely, the Master code can add/delete users but not add/delete zones on the system. Once the Master Code has been changed (see 2 - User profile), every time the “System Setup” menu is accessed; the user will be prompted for a password.

1. From the “Passwords” menu, press “ok”.

2. Select which password(s) or code(s) you wish to program by pressing “NEXT” and press “OK” when the desired password appears. The following passwords can be programmed:

- Installer code
- Maintenance code
- Panel ID
- PC Password

Console Audible Trouble Warning

The console emits an intermittent beep tone whenever a trouble condition occurs in the system. The intermittent beep tone remains activated until the user enters the Trouble Display by pressing the left [ACTION] key (I). The intermittent beeps will re-initialize whenever a new trouble occurs or the trouble restores and re-occurs.

When the system experiences problems or is tampered with, the Information symbol (I) will appear on the LCD screen and the light will illuminate. The potential troubles that the Magellan system can experience are listed below (Table 2).

To access the Trouble Display:

1. Press the key.
2. Use the [NEXT] key to scroll through the displayed troubles.
3. Press the [OK] key to view details on the desired trouble.

Technical Support

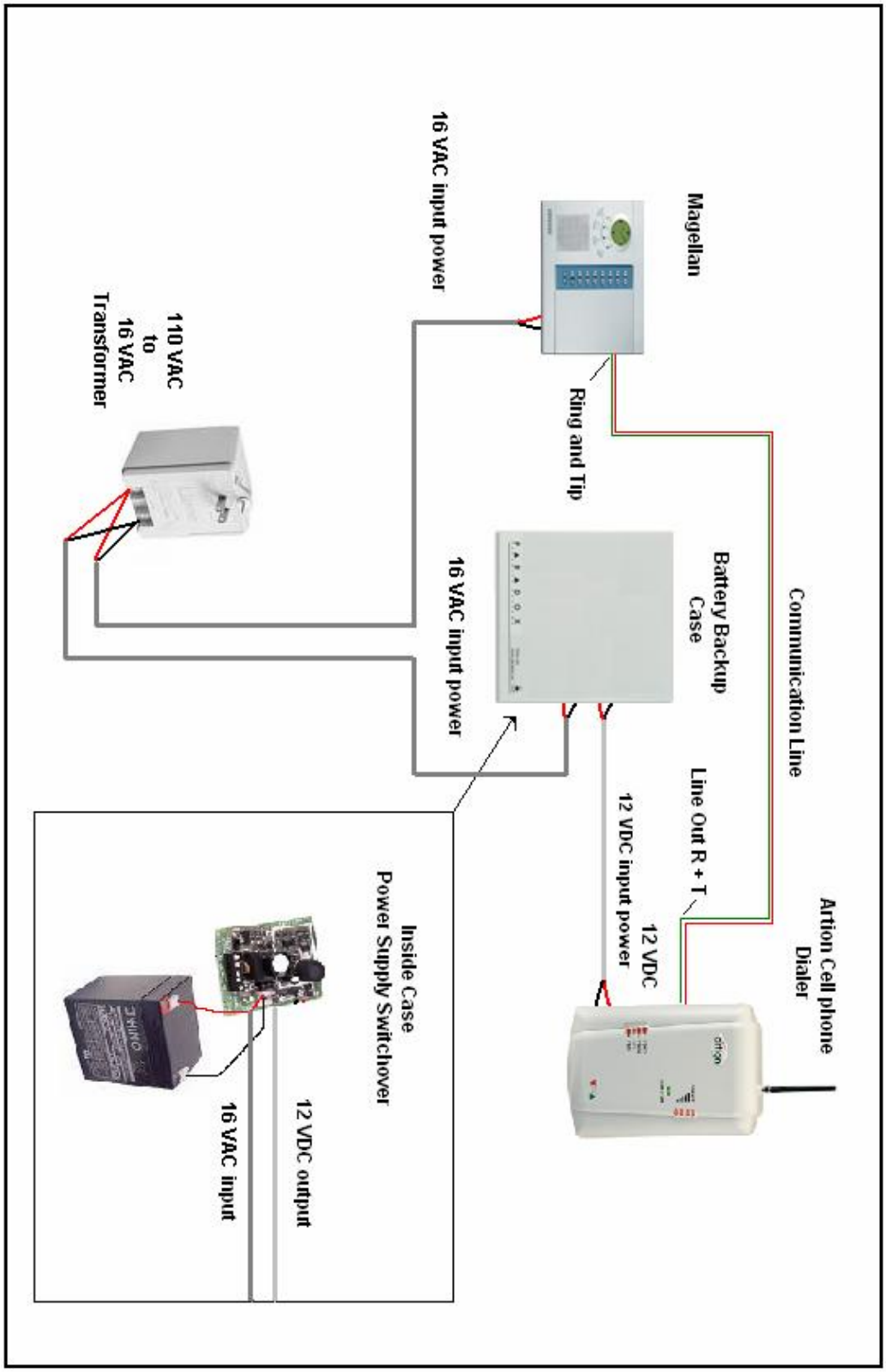
Paradox Marine Technical Support

Toll Free: 866-929-4441

support@paradox-marine.com

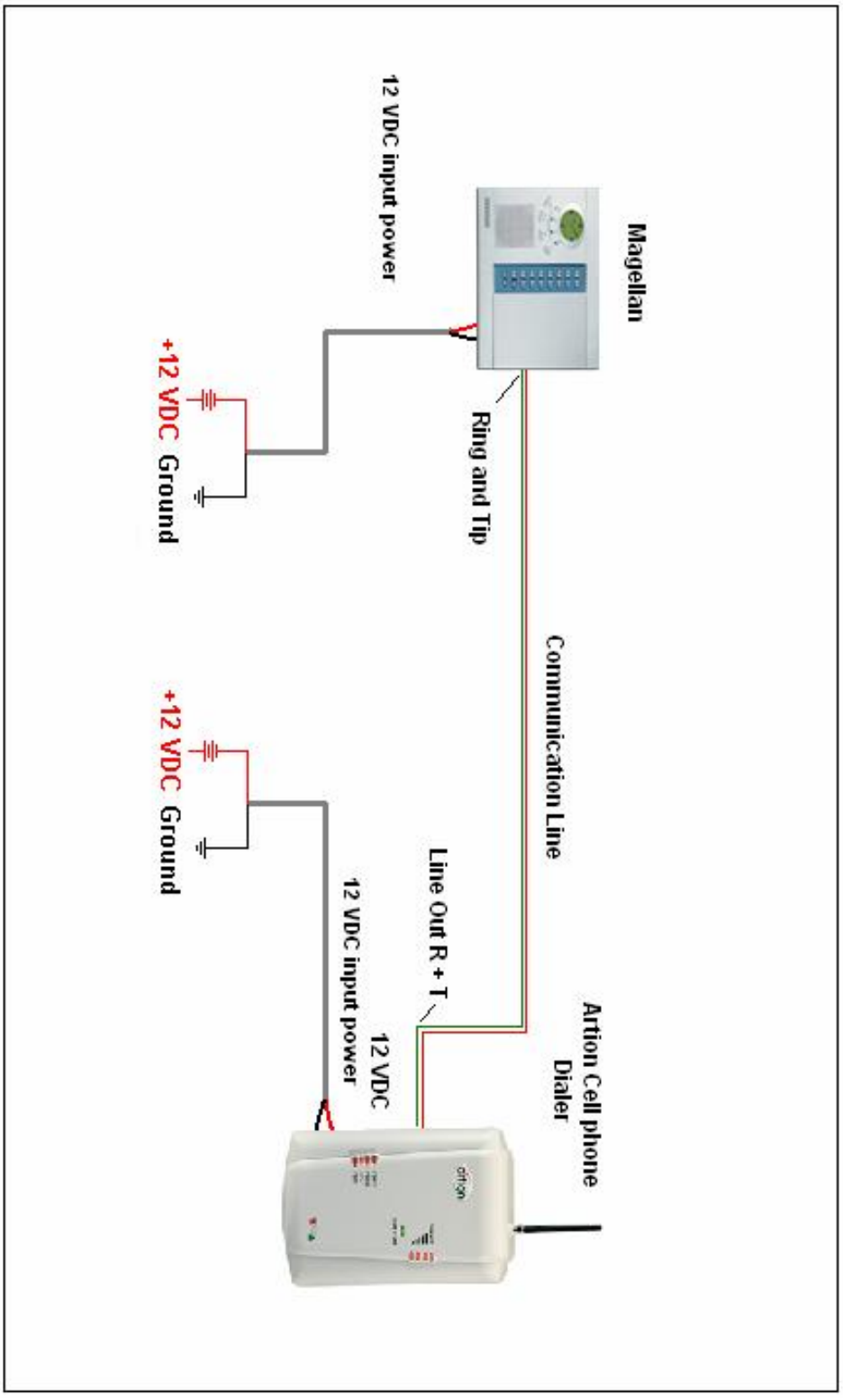
Trouble	Description
Bypass	There is a zone (or zones) that is bypassed in the system.
Alarm Memory	An alarm has occurred in the system. The zones displayed went into alarm.
Console Low Bat	The backup battery pack is disconnected or needs to be recharged or replaced.
Doorbell Low Bat	Wireless transmitter being used as a doorbell (see page 19) requires its batteries changed.
Zone Low Battery	Zone(s) displayed indicate(s) where a wireless transmitter's battery needs to be replaced.
Clock Loss	The time and date were reset to default. To reprogram: 1. Press the [12HRS] key to display the time using the 12-hour clock or the [24HRS] key to display the time using the 24-hour clock. 2. Enter the desired time and then press [OK]. 3. Enter the date and then press [OK].
AC Failure	Power failure detected. The system is running on the backup battery pack.
Supervision Trouble	Zone(s) and/or wireless output(s) displayed has/have not sent a check-in signal within the programmed interval (see page 24).
Console Tamper	The Magellan console was tampered with.
Zone Tamper	Zone(s) and/or wireless output(s) displayed was/were tampered with.
Fail to Communicate with Central*	The Magellan console has failed to contact the monitoring station.
Fail to Communicate with Voice Reporting*	The Magellan console has failed to contact telephone number programmed for Voice reporting.
Fail to Communicate to Pager*	The Magellan console has failed to contact telephone number programmed for Pager reporting.
Fail to Communicate with PC*	The Magellan console is unable to communicate with the WinLoad software.
Fail to Communicate with Voice Utility*	The Magellan console has failed to contact telephone number programmed for Voice Utility reporting.

Table 2



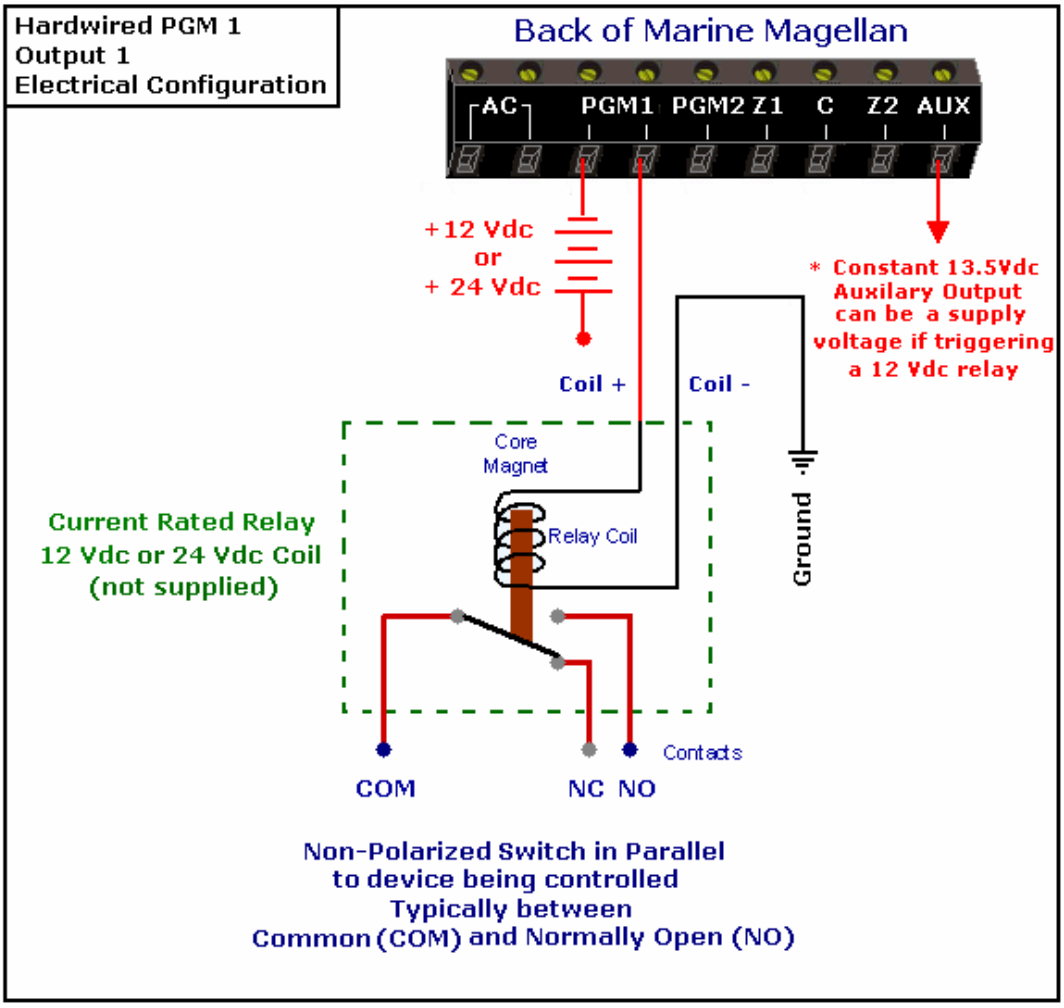
Appendage 1

AC Installation



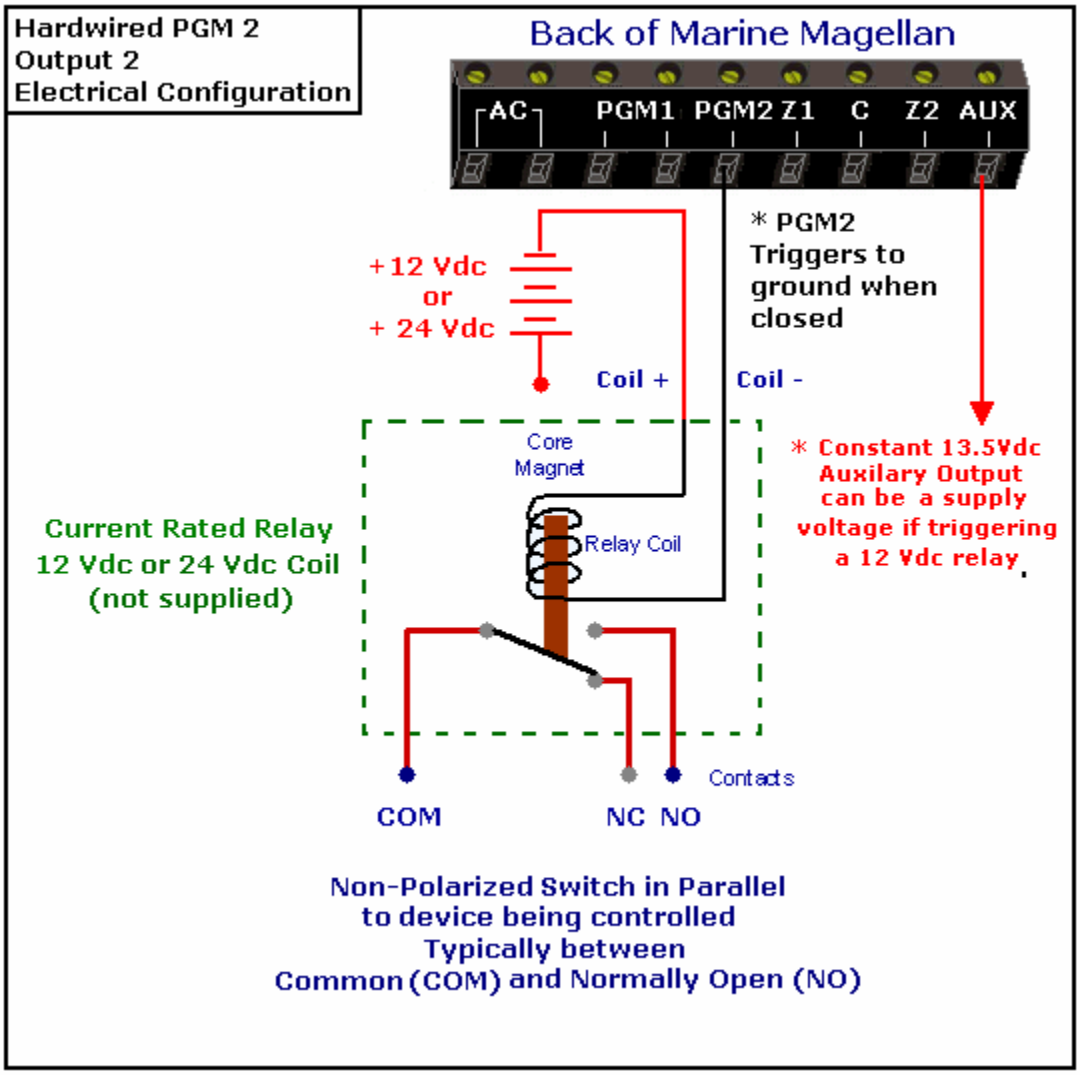
Appendage 2

DC Installation



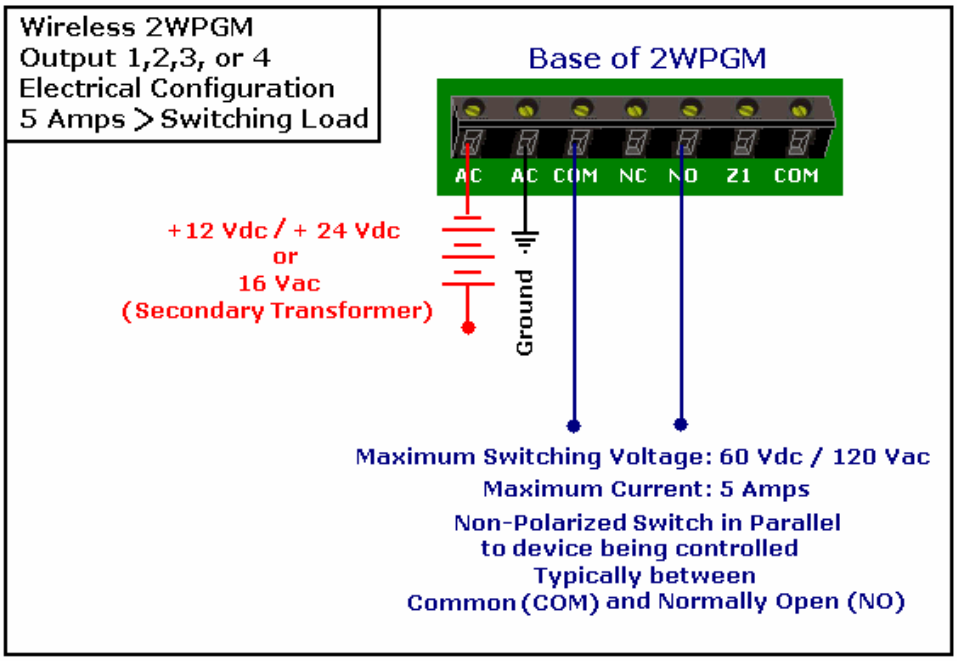
Appendage 3

Hardwired PGM 1 Relay setup



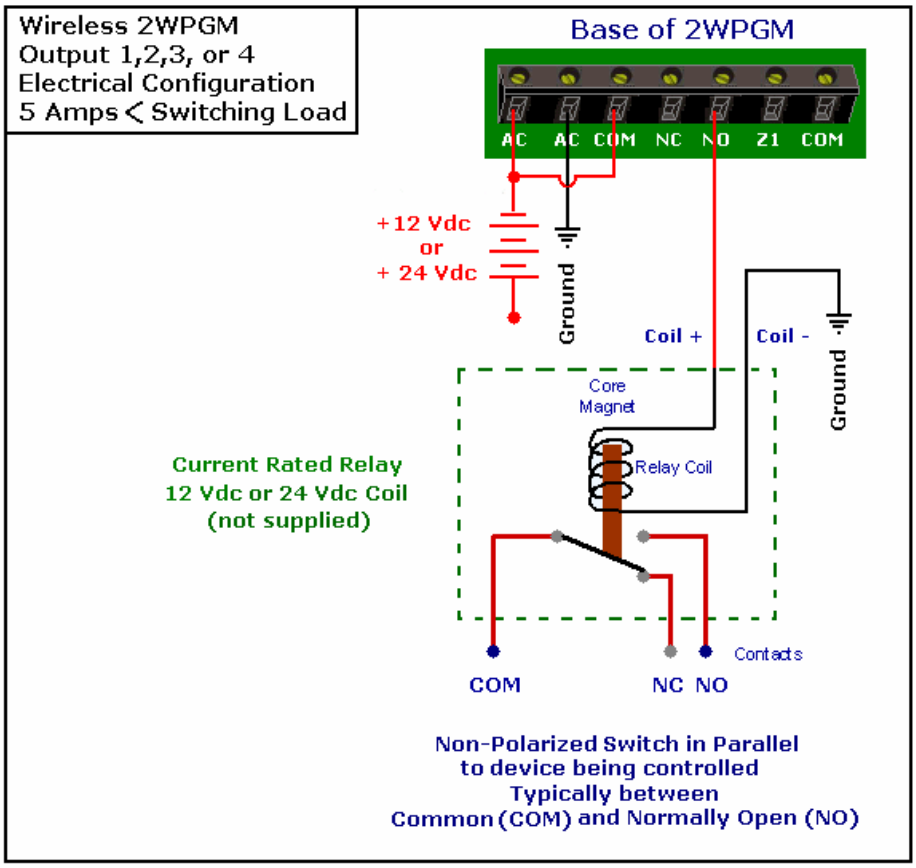
Appendage 4

Hardwired PGM 2 Relay Setup



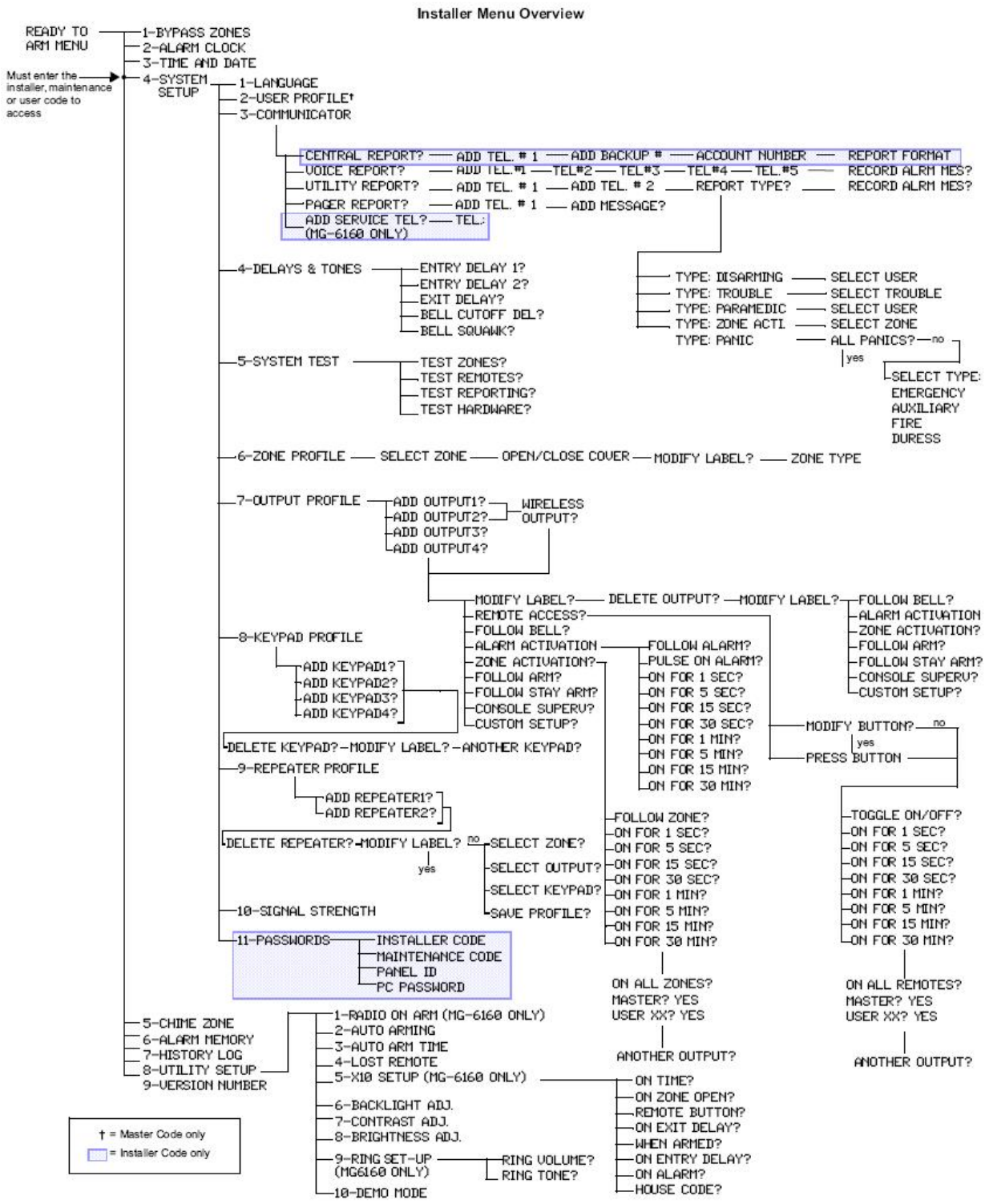
Appendage 5

2WPGM Wiring setup (switching load below 5 amps)



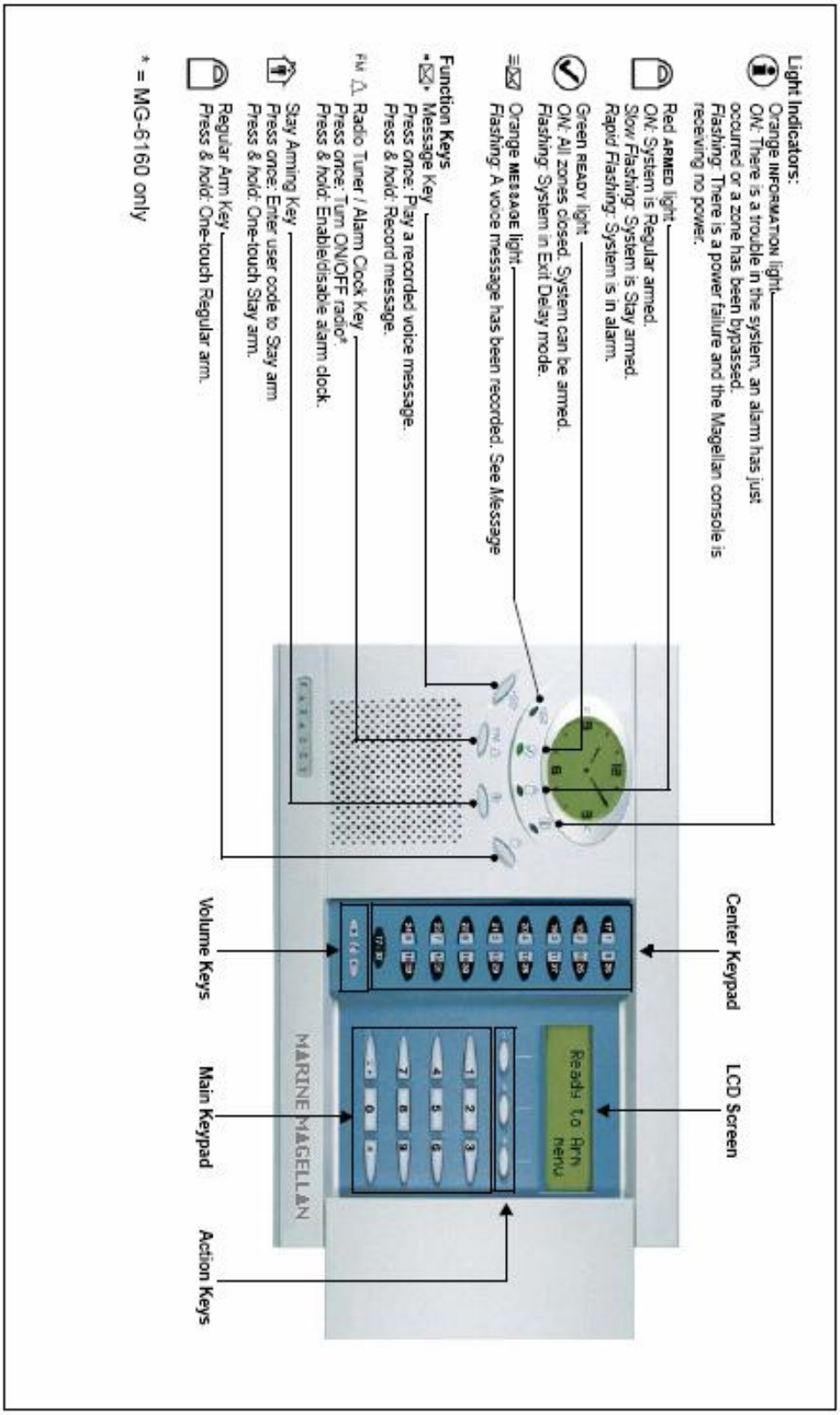
Appendage 6

2WPGM Wiring setup (switching load above 5 amps)



Appendage 7

Programming Web



Appendage 8
Marine Magellan Buttons